

SNESKOVA, V. S.

"The History of Reservoirs of the Transurals," Doklady Akademii Nauk, Vol 51, No 3, 1946
(132-143).

(Meteorologiya i Gidrologiya, No 6 Nov/Dec 1947)

SO: U-3218, 3 Apr 1953

SHEŠHUKOVA, V. S.

21590

SHEŠHUKOVA, V. S. Diatomovyye vodorosli ilovykw otlozheniy i podstilayushchikw ikw glin iz ozer Onego-Belomorskogo vodorazdela. Trudy Leningr. o-va estestvoispytateley, t. LXIX, vyp. 3, 1949, s. 177-97. — Bibliogr: 8 Nazv

SO: Letopis' Zhurnal'nykh, Statey, No. 29, Moskva, 1949

SHESHUKOVA, V. S.

Kamyshlov District--Algae, Fossil

History of the ponds of the Trans-Ural region based on the study of their diatomaceous flora. Part 1., Lakes of the Kamyshlov District. Trudy Lab. sapr. otl., No. 5, 1951

Monthly List of Russian Accessions, Library of Congress, December 1952. Unclassified.

1. V. S. SHESHUKOVA
2. USSR (600)
4. Algae, Fossil - Don River
7. Material for the study of diatomaceous algae in Cenozoic deposits of the Lower Don. Nauch, biul. Len. un. no. 28. 1951
9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

TOPACHEVS'KIY, O.V. [reviewer]; GOLLERBAKH, M.M.; POLYANSKIY, V.I.; ZABELINA, M.M.;
KISELEV, I.A.; PROSHKINA-LAVRENKO, A.I.; SHESHUKOVA, V.S. [authors].

Review of the "Guide to fresh-water algae of the U.S.S.R." (no.1: "Study of
fresh-water algae. General survey," M.M.Gollerbach, V.I.Polianskii; no.4:
"Diatomaceous algae," M.M.Zabelina, I.A.Kiselev, A.I.Proshkina-Lavrenko,
V.S.Sheshukova). O.V.Topachevs'kiy. Bot.zhur.[Ukr.] 9 no.1:87-88 '52.
(MLRA 6:11)

(Algae) (Gollerbach, M.M.) (Zabelina, M.M.)

S. I. L. S. H. U. N. O. V. I. T. I. D.

PROSHKINA-LAVRENKO, A.I., redaktor; SHESHUKOVA, V.S., redaktor.

[Symposium on diatoms, dedicated to the memory of Professor V.S.Poretskii]
Diatomovyi sbornik, posviashchennyi pamiatti professora V.S.Poretskogo.
Leningrad, Izd-vo Leningradskogo gos. universiteta, 1953. 228 p. (MLRA 7:6)

1. Leningrad. Universitet. Biologo-pochvennyy fakul'tet.
(Diatoms)

GOLLERBAKH, M.M., professor; KOSINSKAYA, Y e.K.; POLYANSKY, V.I., professor; MATVIYENKO, A.M.; ZABELINA, M.M.; KISELEV, I.A.; PROSHKINA-LAVRENKO, A.I.; SHESHUKOVA, V.S.; POPOVA, T.G.; SAVICH, V.P., professor, zasluzhennyy deyatel's nauki RSFSR, redaktor; STREL'NIKOVA, L.I., tekhnicheskiiy redaktor; GRIBOVA, M.P., tekhnicheskiiy redaktor; GUBER, tekhnicheskiiy redaktor; KHROSH, A.I., tekhnicheskiiy redaktor; KOROLEVA, L.I., tekhnicheskiiy redaktor.

[Guide to the fresh-water algae of the U.S.S.R.; in 14 volumes]
Oprede-litel' presnovodnykh vodoroslei SSSR; v chetyrnadtsati vypuskakh. Redaktsionnaia kollegiia: M.M. Gollerbakh, V.I. Polianskii, V.P. Savich (otv. redaktor) Moskva, Gos. izd-vo "Sovetskaiia nauka." No. 2 [Blue-green algae] Sinezelenye vodorosli. 1953. 651 p. no. 3 [Chrysophyta] Zolotistye vodorosli, 1954. 187 p. No. 4 [Diatomaceae] Diatomovye vodorosli 1951. 618 p. No. 6 [Pyrrophyta] Pirofitovye vodorosli 1954. 211 p. No. 7 [Euglenophyta] Evglenovye vodorosli 1955. 282 p. (MLRA 8:9)
(Algae)

SHESHUKOVA-PORETSKAYA, V.S.

History of waters of the trans-Ural region based on a study of
their diatomaceous flora. Uch.zap.Len.un.no.191:105-162 '55.
(Ural Mountain region--Diatoms) (MIRA 9:7)

SHESHUKOVA-PORITSKAYA, V.S.

Diatomaceous algae of marine intermerainic deposits of the
European U.S.S.R. Uch.zap.Len.un.no.191:163-192 '55.
(Diatoms, Fossil) (MLRA 9:7)

Sheshukova-Poretskaya, V. S.

15-1957-7-9089

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 7,
pp 36-37

AUTHOR: Sheshukova-Poretskaya, V. S.

TITLE: On the Fossil Genus Rouxia Brun and Heribaud (Bacillariophyta) (O iskopayemom rode Rouxia et Heribaud (Bacillariophyta))

PERIODICAL: Botan. Materialy Otol. sporovykh rast. Botan. in-t.
AN SSSR, 1956, vol 11, pp 64-75

ABSTRACT: The genus of diatomaceous alga Rouxia Brun and Heribaud is described in detail. An exhaustive critical survey of the literature concerning this fossil genus is made. The genus Rouxia is a connecting link between genera having sutures on one valve only and true Diraphineae with sutures on both valves. There is a very close kinship, apparently, between Rouxia and Peronia, which has rudimentary sutures on only one of its valves. The genus includes four species. One of

Card 1/2

SHESHUKOVA-PORETSKAYA, V.S.

New and interesting species of diatoms from trans-Ural bodies of
water. Bot.mat.Otd.spor.rast. 11:76-81 Ja '56. (MLRA 9:11)

1. Kafedra botaniki Leningradskogo gosudarstvennogo universiteta.
(Ural Mountain region--Diatoms)

SHESHUKOVA-PORETSKAYA, V.S.

Fossil diatoms of southern Sakhalin (marine Neogene). Vest.LGU
14 no.15:36-55 '59. (MIRA 14:4)
(Sakhalin—Diatoms, Fossil)

SHESHUKOVA-PORETSKAYA, V.S.

Diatoms of some peat bogs of the Baltic shore; the Estonian
S.S.R. and Kaliningrad Province. Uch. zap. LGU no.313:137-170
'62. (MIRA 15:12)

(Estonia—Diatoms)
(Kaliningrad Province—Diatoms)

~~SHESHUKOVA-PORETSKAYA, V.S.~~; GLEZER, Z.I.

Diatoms, Silicoflagellatae and Ebridae from Maikop
sediments in the Shibik River; Krasnodar Territory. Uch.
zap. LGU no. 313:171-202 '62. (MIRA 15:12)
(Shibik River—Algae, Fossil)

SHESHUKOVA-PORETSKAYA, V.S.

New and rare Bacillariophyta from the diatom series of Sakhalin.

Uch. zap. LGU no.313:203-211 '62.

(MIRA 15:12)

(Sakhalin-Diatoms, Fossil)

SHESHULIN, G.I.

Composition of gas-liquid inclusions in minerals of spodumene.
Geol.mest.red.elem. no.9:67-79 '61. (MIRA 14:9)
(Spodumene) (Pegmatites)

FUZANOV, L.S.; SUDERKIN, A.I.; SHESHULIN, G.I.; BORZAKOV, B.A.;
GUDKOV, A.S., nauchnyy red.; SEMILETKOVA, Ye.K., red.
izd-va; SHMAKOVA, T.M., tekhn. red.

[Industry's requirements as to the quality of mineral raw materials] Trebovaniia proryshlennosti k kachestvu mineral'nogo syr'ia; spravochnik dlia geologov. Moskva, Gosgeoltekhizdat. No.31 [Piezoelectric and optical minerals] Piezoelektricheskoe i opticheskoe syr'e. Izd.2., perer. 1962. 46 p.
(MIRA 15:10)

1. Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut mineral'nogo syr'ya.

(Quartz) (Iceland spar) (Fluorite)

SHEŠULKA, V.

✓The relation between ten percent and flash equilibrium distillation curves [of coal tar]: S. Landa and V. Šešulka, *Polita* 35, 263-7(1955).—Various articles dealing with this relation for crude oils have been published, but not for tar. To remedy this situation, tars obtained from various coals

and processes were investigated. A flash b.p. equil. distn. app. was constructed, consisting of: const.-temp. bath with mixt. of NaNO_3 and KNO_3 salts in mol. ratio, elec. mixer, flash evaporator with thermometer on top and also condenser with thermometer insert for liquid fractions. The bottom part contained 3 openings, one for 3-part spray nozzles and the 2nd for removal of the nonliquid portion of tar. The results of Engler-type distn. were compared to flash evapn. A series of curves was constructed showing that the middle point of Engler distn. was also the center for flash equil. distn. curves. From the slope of 10% distn. curves the slope of flash distn. curves was deid. mathematically.

Jos. Lederer

(2)

BUTSLOV, M.M.; MEDVEDEV, M.N.; FILIPPOV, P.I.; CHUVILO, I.V.; SHESHUNOV,
V.M.

Recording of a Vavilov-Cherenkov radiation cone from isolated
particles. Atom. energ. 12 no.5:412 My '62. (MIRA 15:5)
(Cherenkov radiation)

SHESHUNOVA, V.

Sheshunova, V. (Exchange of Experience) Help in the work of the regional mining inspectors of the Central Statistical Bureau, USSR. P. 61

SO: Herald of Statistics (Vestnik), No. 2, 1951

SHEKIN, A.

Tool for sharpening safety-razor blades. Prom.koop.no.8:29-31
Ag '55. (MLRA 9:1)

1.Starshiy inzhener proizvodstvenno-tekhnicheskogo upravleniya
promsoвета Estonskoy SSR.
(Razors)

SPYCHEN, A. J.

1 pamphlet on the maintenance of pneumatic hammers. Sverdlovsk, Gos.
nauch.-tekhn. izd-vo mashinostroit. lit-ry, 1946. 31 p. (50-24144)

TJ1005.S48

SHESKIN, F. M.

SHESKIN, F. M. -- "The Use of Streptomycin in Tuberculosis of the Kidneys." Kiev Order of Labor Red Banner Medical Institute Academician A. A. Bogomolets. Kiev, 1956.
(Dissertations for the Degree of Candidate in Medical Sciences).

SO: Knizhnaya Letovis', No 9, 1956.

SHESKIN, F.M., kand.med.nauk

Conservative treatment in tuberculous epididymitis. Vrach.
delo no.5:150-151 My '62. (MIRA 15:6)

1. Poliklinicheskoye otdeleniye 2-y bol'nitsy Oktyabr'skogo
rayona Kiyeva.

(EPIDIDYMIS---TUBERCULOSIS)

PROCEDURES AND PROPERTIES INDEX	
<p>CA</p> <p>Quantitative microchemical analysis of minerals, ores, and rocks. VII. Colorimetric and volumetric micro-determination of titanium. 1. P. Alimarin and A. Ya. Sherkol'skaya. <i>Zhurnal Khim. Anal.</i> 11, 141-5 (1943); cf. <i>Sherkol'skaya, Zhurnal Khim. Anal.</i> 11, 141-5 (1943). Colorimetric method. Moisture C.A. 35, 7310f, 39, 1113f. -- Colorimetric method. Moisture the sample in a 3-5-ml. crucible with 3 drops of water, add 6 drops of HF and 6 drops of H_2SO_4 (1:1), heat on a micro water bath to remove HF, place the crucible in an electrically heated massive Cu block, heat until SO_2 vapors appear, cool the crucible in another Cu block, add 3-4 drops of water, evap. as before and dissolve the contents in 1 ml. of water, heating on a water bath. In analyses of Fe ores, fuse the sample in a narrow-bottom porcelain or quartz crucible with 0.5 g. of K_2SO_4, dissolve in 2 ml. of hot 5% H_2SO_4, add 3-4 drops of 3% H_2O_2, transfer the soln. into a microcolorimeter test tube with a 2-ml. or a 5-ml. mark, wash the crucible several times with small portions of 5% H_2SO_4, add H_2SO_4 to the mark, mix, and compare the color with that of a standard soln. If the sample contains much Cr or V, fuse the residue (after decompn. with HF) with 0.5 g. of Na_2CO_3 to which several grains of Na_2O had been added, treat the melt with a small quantity of hot water, filter in a King filtering tube, wash with 2% hot Na_2CO_3 soln., ignite the insol. residue with the filter, fuse the oxides obtained with 0.5 g. of K_2SO_4, dissolve the melt in 5% H_2SO_4, add H_2O_2, and det. Ti colorimetrically. If the content of V in the sample exceeds 0.5%, repeat the fusion with Na_2CO_3 and Na_2O. The deviations of results between micro and macro detns. were from zero to +0.2 or -0.1%. Volumetric detn.</p>	<p>Decomp. 10-20 mg. of sample with HF and H_2SO_4 (1:1), fuse with K_2SO_4, dissolve in 1% H_2SO_4, transfer the soln. into an electrolyzer contg. Hg to the level of the side tube with a stopcock (the concn. of free H_2SO_4 in the soln. should be approx. 1%), immerse the anode in the liquid, electrolyze for 1.5-2.0 hrs. at 10 v. and 0.5-0.6 amp. (raise the anode slightly 15-20 min. before the end of electrolysis and wash the walls with a small quantity of water), pour off the liquid through the stopcock into a 10-ml. beaker, wash with 5% H_2SO_4, add sufficient H_2SO_4 (1:1) to the soln. (free from Fe and Cr) to bring its concn. to approx. 5%, and reduce as follows: wash the micro-reductor twice with 5% H_2SO_4. Add to an Erlenmeyer flask 10 ml. of dil. H_2SO_4 (H_2SO_4 3 parts, water 1 part) and 10 ml. of 0.01 N $Ce(SO_4)_2$, connect the flask to the reductor, pass CO_2 for 15-20 min. at the rate 2-3 bubbles/sec., pour the sample soln. into the funnel of the reductor, pass the liquid through the stopcock at the rate of 1 ml./min. (the CO_2 keeps the soln. mixed). After the whole soln. has been passed through the reductor, wash the reductor with 5% H_2SO_4, wash the funnel 3-4 times with 5% H_2SO_4, disconnect the flask, wash with 5% H_2SO_4, add an excess of standard $Ce(SO_4)_2$, and titrate the excess with 0.01 N soln. of Mohr's salt and a drop of 0.02% aq. phenylanthranic acid until the violet color of the indicator is decolorized. Seven references. VIII.</p>
<p>ASM. I. A. METALLURGICAL LITERATURE CLASSIFICATION</p>	
<p>FROM SYMBOLS</p>	
<p>FROM SYMBOLS</p>	

COMMON ELEMENTS		PROCESSING AND PROPERTIES INDEX		COMMON ELEMENTS	
A		Microchemical determination of sulfur in minerals and ores. I. P. Alimarin and A. Ya. Sheskol'skaya (All Union Inst. Mineral Raw Materials, Moscow). <i>Zhur. Anal. Khim.</i> 1, 160-75(1946).--A titration procedure is described in which all S is converted into sulfate by fusion with Na_2CO_3 and KNO_3 , and the aq. soln. of the melt is treated with a HCl soln. of BaCrO_4 , as in the method of Hinman (<i>Am. J. Sci. and Arts</i> 114, 478(1877)) except that the chromate equiv. to the sulfate is detd. by adding a definite quantity of standard ferrous soln., and the excess is measured by titration with standard $\text{Ce}(\text{SO}_4)_2$ soln. A colorimetric detn. is described in which the chromate is detd. in a small aliquot by the reaction with diphenylcarbazide (cf. Kocsis, C.A. 33, 16219).		7	
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SHESHEL'SKAYA, A. YA.

All-Union Sci. Res. Inst. of Econ. Mineralogy, Moscow (1946)

"The Quantitative Microchemical Determination of Sulphur in Minerals and Oils,"

Zhur. Analit. Khim., No. 3, 1946.

SHEKOLISKAYA; A. Ya.

7586

NEW METHOD OF ALUMINUM DETERMINATION

Cher 2
A. Ya. Shekoliskaya, *2*
Inst. of Metallurgy, Zhur. Akad. Nauk, 11, 102-54966, Feb.
(In Russian)

A newly developed weighing method for the determination of aluminum in iron ores and industrial products has indicated that the quickest and most reliable precipitation of aluminum is effected by ammonium benzoate in a medium

of weak acetic acid. The iron reduced by sodium hydro-sulfite to a bivalent state does not interfere with the determination of Al. The method permits a quick qualitative determination of aluminum in the presence of a high content of iron. (tr-auth) *pm 222*

2453. Determination of niobium in the presence of large amounts of titanium. (A. A. Baikov Inst. of Metallurgy, Acad. Sci., USSR, Moscow). *Zh. Anal. Khim.*, 1957, 12 (3), 356-358. — The use of ascorbic

acid to form a complex with Ti which is not pptd. by tannin is recommended. The sample (0.5 g), e.g., of perovskite, is decomposed with H_2SO_4 and HF, etc., and the residue after evaporation of H_2SO_4 followed by re-evaporation after addition of water is treated with 6 ml of water and 10 ml of conc. HCl. The soln. is treated with 0.1 g of ascorbic acid and 3 g of NH_4Cl , diluted to 180 ml, mixed at 60° with 10 to 20 ml of a 1% freshly prepared soln. of tannin added dropwise, and with paper pulp when the soln. becomes cloudy, and then set aside at 60° for 2 to 3 hr. The niobium complex with tannin is filtered off from the cold soln. and washed with cold 4% HCl soln. After ignition the ppt. if white is fused with 0.5 to 1 g of $K_2S_2O_8$, and the melt is dissolved in 20 ml of 5% H_2SO_4 soln. with the addition of 1 or 2 drops of H_2O . If the soln. is yellow, indicating the presence of Ti, the colour is matched with a standard soln. of Ti. The calculated amount of TiO_2 is deducted from the wt. of the impure Nb_2O_5 . With a coloured ppt. the Nb is re-pptd. after dissolution of the ppt. in H_2SO_4 and HF, etc. The method gave satisfactory results with samples containing 0.3 to 0.9% of Nb.

G. S. SMITH

5(2),5(3)

AUTHORS:

Ponomarev, A. I., Sheskol'skaya, A. Ya. SOV/75-14-1-15/32

TITLE:

Determination of Niobium in the Presence of Tungsten by the Aid of Cupferron (Opredeleniye niobiya v prisutstvii vol'frama pri pomoshchi kupferona)

PERIODICAL:

Zhurnal analiticheskoy khimii, 1959, Vol 14, Nr 1, pp 67-70 (USSR)

ABSTRACT:

A method is devised in the present paper, permitting the determination of niobium in alloys, steels and other objects containing tungsten, without prior separation of the two elements. 3 niobium standard solutions were employed for the elaboration of this method: with tartaric acid, with oxalic acid and with ammonium oxalate. The determination takes place by precipitation of niobium with a 3% aqueous solution of cupferron from hydrochloric solution, containing one of the three mentioned complex-forming compounds. The precipitate is filtered off, annealed and then decomposed with potassium pyrosulfate. After cooling, a solution of oxalic acid, ammonium oxalate or tartaric acid is added, wherein the melt is soluble on heating. The solution obtained is acidified with hydrochloric acid and precipitation of niobium with cupferron is repeated. The

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Determination of Niobium in the Presence of
Tungsten by the Aid of Cupferron

SOV/75-14-1-13/32

precipitate obtained is annealed ($\sim 1000^\circ$) and weighed out as Nb_2O_5 . The precipitation with cupferron takes place at room temperature. Filtering and washing of the precipitate is rapid and reliable. The results obtained from the determination show that for determining niobium in the presence of tungsten all three mentioned complex formers are suitable to the same degree for the masking of tungsten. By the aid of the radioactive isotope W^{185} the precipitates of Nb_2O_5 were investigated as to their tungsten content. The amount of tungsten co-precipitated was found to be dependent on that of niobium. On precipitating 10 mg Nb in the presence of 100 mg W more pure Nb_2O_5 containing no tungsten is obtained. Investigation of the precipitates that are obtained from the alloys W - Si - Nb showed co-precipitation of tungsten to occur only with niobium contents $> 30\%$. The method devised is both rapid and accurate and permits the determination of niobium in the presence of

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Determination of Niobium in the Presence of
Tungsten by the Aid of Cupferron

SCV/75-14-1-13/52

large quantities of tungsten. Very detailed working instructions for the niobium determination based on this method are given with respect to W - Si - Nb alloys and tungsten-containing steels. There are 3 tables and 5 references, 4 of which are Soviet.

A.L.S.O.I. 11 : Institut metallurgii im. A. A. Baykova AN SSSR, Moskva
(Institute of Metallurgy imeni A. A. Baykov of the AS-USSR,
Moscow)

A.L.S.O.I. 1109: March 8, 1958

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S/509/60/000/004/022/024
E111/E152


AUTHORS: Ponomarev, A.I., and Sheskol'skaya, A.Ya.

TITLE: Determination of Niobium in Cast Irons

PERIODICAL: Akademiya nauk SSSR. Institut metallurgii.
Trudy, No.4, 1960. Metallurgiya, metallovedeniye,
fiziko-khimicheskiye metody issledovaniya, pp.240-242

TEXT: The object of this work was to find a method of determining niobium in cast iron in the presence of iron and titanium, without their preliminary separation. Ascorbic acid $C_6H_8O_6$ was used to form a complex with titanium and for reducing iron to the bivalent form in which it stays in solution. After preliminary experiments the following procedure was developed. 1-1.5 g of the sample is treated with 5 ml of 1.40 s.g. nitric acid. After evaporation almost to dryness on a sand bath, the solution is completed by adding 30 ml of 1:2 hydrochloric acid and boiling. The volume of the solution is maintained by adding water. Ignoring any black light residue the solution is diluted to 180-190 ml, 1-2 g of ammonium chloride and 0.1-0.2 g of ascorbic acid are added and the temperature is raised to 70-80 °C. ✓
Card 1/3

S/509/60/000/004/022/024
E111/E152



Determination of Niobium in Cast Irons

10 ml of freshly prepared 1% aqueous tannide solution are slowly added with stirring, the heating being continued for 2-3 hours. Macerated paper is added and after cooling the precipitate is filtered and washed 6-8 times with cold 4% hydrochloric acid. The precipitate and paper are heated in a platinum crucible until all graphite has burned off. A few drops of water, 10-20 drops of 1:1 sulphuric acid and 2.3 ml of hydrofluoric acid are added and the crucible is gradually heated on a sand bath until SO_3 fumes have been evolved for 5 min. 1-2 ml of water are added to the cooled crucible and evaporation is carried out until only 2-3 drops of sulphuric acid remain. After cooling, 1-2 ml of water and 5 ml of hydrochloric acid (s.g. 1.19) are added and the crucible is heated until all salts have dissolved. The solution is transferred to a beaker, diluted to 80-90 ml and the niobium is precipitated as before after addition of 0.10 g of ascorbic acid. The filtered and washed precipitate and filter paper are heated to 1000 °C for 5-7 minutes in a platinum crucible which is then cooled in a desiccator and weighed. The residue is fused

Card 2/3

S/509/60/000/004/022/024

E111/E152

Determination of Niobium in Cast Irons

with potassium pyrosulphate (0.5-1.0 g) and the melt is dissolved in 20 ml of 5% sulphuric acid with 1-2 drops of hydrogen peroxide. If the solution is colourless titanium is absent; if it is pale yellow it is diluted to 25 ml and its coloration compared with that of a standard titanium solution, the equivalent weight of titanium dioxide being subtracted from the weight of the niobium pentoxide precipitate. There are 2 tables and 5 references: 3 Soviet, 1 English and 1 German.

Card 3/3

S/075/62/017/003/003/004
1017/1217

AUTHOR: Sheskol'skaya, A. Y.

TITLE: Determination of zirconium and niobium in their binary alloys using cupferron

PERIODICAL: Zhurnal analyticheskoy khimii, v. 17, no. 3, 1962, 327-329

TEXT: A rapid and precise method for the determination of zirconium and niobium in their binary alloys, based on the successive precipitation of these elements using cupferron.

A review of the problem in the literature is given. Works of Alimarin and Schröder are cited and adapted.

The results of a series of determinations of Nb and Zr in synthetic solutions containing tartaric acid are tabulated and the error calculated. The error varies in this case between 0-3% (relative).

The method of analysis of solutions containing Zr and Nb in a ratio of 1:1 and 3:1 is identical with that described here for samples of unknown composition.

PROCEDURE: 1) Determination of zirconium — 0.1 g of the sample is dissolved in a Pt-crucible by addition of 2-3 ml KF and a few drops of HNO_3 to the complete dissolution of the alloy. Then 3-4 ml H_2SO_4 (Sp. gr = 1.84) are added and heated in a sand bath, for 10-15 min. until white vapors appear and all the HNO_3 is removed. After cooling, 25 ml 4% solution of tartaric acid and 10 ml 2% soln. of $\text{NH}_4\text{fluoride}$ are added and the solution is transferred to a 300 ml beaker. The solution (100-125 ml), is neutralised by

Card 1/2

Determination of...

S/075/62/017/003/003/004
1017/1217

ammonia using phenol-red indicator: the color changes from red, through yellow, to red; 2 drops ammonia are added in excess. The solution is cooled to room temp. and Zr is precipitated by addition of 10-15 ml 6% aqueous cupferron soln. , which is added slowly with stirring, the soln. is left in the cold one night. The precipitate is filtered off using a filter of 9 cm. M (white band), and washed 5-6 times with cold water. The precipitate with the filter paper is placed in a weighed Pt or porcelain crucible, ignited for 10-20 min. at 1000°C, cooled in a desiccator and ZrO_2 is weighed. The factor for Zr calculation from ZrO_2 is 0.7403.

2) Determination of niobium — 50 ml 2% soln. of boric acid, 5 ml HCl, 20-25 ml 6% aqueous soln. of cupferron are added to the filtrate obtained after the separation of the Zr by vigorous and constant stirring to complete coagulation of the precipitate. After filtration carried out under the same conditions as for the Zr separation, the 20 ml 6% aqueous cupferron soln. The precipitate with the filter is ignited in Pt or porcelain crucible for 15-20 min. at 1000°C cooled in a desiccator and the Nb_2O_4 weighed. The factor for the Nb calculation from Nb_2O_4 is 0.6990.

ASSOCIATION: Institut metallurgii im. A.A. Baykova, Akademii Nauk SSSR. (Institute of metallurgy im. A. A. Baykov, Academy of Sciences, USSR) Moscow

SUBMITTED: May 8, 1961

Card 2/2

S/075/62/017/008/001/004
E071/E135

AUTHOR: Sheskol'skaya, A.Ya.

TITLE: Determination of zirconium in the presence of large quantities of molybdenum and tungsten

PERIODICAL: Zhurnal analiticheskoy khimii, v.17, no.8, 1962, 949-951

TEXT: The development of a method of direct determination of zirconium in molybdenum and in alloys based on tungsten without their preliminary separation is described. The method is based on the precipitation of zirconium with cupferron at pH = 6.8 in the presence of tartaric and oxalic acids to retain molybdenum and tungsten in solution. The method was developed using pure solutions of the elements and this has shown that the accuracy of the method is high (e.g. 4 mg of zirconium in the presence of 550 mg of tungsten gave an error of +0.2 mg of zirconium). The method was applied satisfactorily for the determination of small amounts of zirconium in molybdenum and tungsten alloys. The analytical procedure is described in some detail. There are 2 tables.

Card 1/2

Determination of zirconium in the ...

S/075/62/017/008/001/004
E071/E135

ASSOCIATION: Institut metallurgii im. A.A. Baykova, Moskva
(Institute of Metallurgy imeni A.A. Baykov, Moscow)

SUBMITTED: January 19, 1962

Card 2/2

I. 10700-63

KWP(q)/KWT(m)/BDS--AFPTC/ASD---JD

S/0075/63/018/006/0782/0783

ACCESSION NR: AP3002539

AUTHOR: Sheskol'skaya, A. Ya.

TITLE: Rapid gravimetric method for the determination of niobium in the presence of large quantities of molybdenum ✓ 54

SOURCE: Zhurnal analiticheskoy khimii, v. 18, no. 6, 1963, 782-783

TOPIC TAGS: niobium determination, alloys, molybdenum, gravimetric analysis

ABSTRACT: A rapid gravimetric method has been developed for the determination of niobium in metal alloys containing molybdenum without previous separation of molybdenum. The dissolution of alloy is accomplished with HF and HNO sub 3 in a platinum crucible with a subsequent addition of H sub 2 SO sub 4. The method is based on the precipitation of niobium with cupferron at a pH of 4.6 in presence of tartaric acid which complexes the molybdenum. The present method is more accurate than the existing hydrolytic methods which show low results when compared to standard solutions. Orig. art. has: 2 tables.

ASSOCIATION: Institut metallurgii im. A. A. Baykova, Moskva (The Institute of Metallurgy, Moscow)

Card 1/2/

KLUBOV, V.A.; SHESKUKOV, N.L.

Prospects for finding oil in the Orenburg portion of the Kama-Kinel' system of troughs. Neftegaz. geol. i geofiz. no. 5:8-11 '63. (MIRA 17:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologorazvedochnyy neftyanoy institut i Neftepromyslovoy upravleniye "Buruuslarneft".

SHESMERKOVA, L.

"Historical Dates of Our Aviation and Aeronautics"

Izdatel'stvo Detsaaf, Moscow 1953

Translation - Lia 568547

1ST AND 2ND ORDER										3RD AND 4TH ORDER									
PROCESS AND PROPERTIES INDEX																			
<p>Oil refractometer and its application. M. Shesmintsev. <i>Mashino Zhitrovo Delo</i> 13, No. 2, 26 7(1937). The construction and use of a modified Abbe refractometer is described. Chas. Blane</p>																			
A.S.M.-S.L.A. METALLURGICAL LITERATURE CLASSIFICATION																			
1ST ORDER										2ND ORDER									
3RD ORDER										4TH ORDER									

SHEDIN, M.

Mos., All-Union Electro-Technical Inst., Moscow, -1945-. "The Lighting System Aberration Effect on the Illumination of a Screen by an Infinitesimal Source of Light," Zhur. Tekh. Fiz., 14, Nos. 4-5, 1944; "On the Influence of Spheric Aberration on the Photometric Characteristics of Optical Apparatus," ibid., 16, No. 2, 1946; "On the Question of the Distribution of the Illumination in the Plane of the Image of Photographic Objectives," ibid., No. 4, 1946.

SHESMINTSEV, M.A.; YAKOVLEV, N.V.

High-illuminance mirror-lens systems used for image transmission.
Opt.-mekh.prom. 25 no.5:24-25 My '58. (MIRA 11:9)
(Optical instruments)

ACCESSION NR: AR4041593

S/0137/64/000/005/D038/D038

SOURCE: Ref. zh. Metallurgiya, Abs. 5D225

AUTHOR: Shesno, L. P.; Shevchenko, G. A.

TITLE: Influence of method of heating of bilayer billets (steel E1847-armco iron) under hot rolling on inclination in intercrystalline corrosion of steel E1847 in Hotrolled clad pipes

CITED SOURCE: Sb. Proiz-vo trub. Vy*p. 10. M., Metallurgizdat, 1963, 106-109

TOPIC TAGS: bilayer billet, bilayer billet heating, hot rolling, intercrystalline corrosion, clad pipe/E1847 steel

TRANSLATION: In investigation conducted for clarification of the influence of the method of heating of bilayer billets under rolling on inclination of steel E1847 to intercrystalline corrosion, for abutment boundary contact with Armco Fe hot-rolled billet of steel E1847 from automatic mill was used, which after boring and

Card 1/3

ACCESSION NR: AR4041593

machining to dimension of 82 x 9 millimeters did not manifest inclination to corrosion. Analysis of results of heating of abutment boundary contact pipe billets under rolling in muffles of carbon steel and steel EI847 shows that even under conditions of very thorough degreasing of surface of these billets, pipes become inclined to intercrystalline corrosion; heating in muffles of carbon steel is accompanied by appearance of significantly larger inclination of free surface of steel EI847 clad pipes to intercrystalline corrosion than during heating in muffles of steel EI847. It was established also that clad pipes are the less able to resist corrosion, the more hermetic the packing of the muffle in which billets for these pipes are heated. And only heating of billets under rolling without muffles (on hearth of continuous furnace) ensures obtaining of clad pipes not inclined to intercrystalline corrosion. This is explained by the fact that during heat treatment on hearth of continuous furnace products of combustion of remainders of lubricant, adsorbed in microdefects and micropores of steel EI847 are well eliminated, which cannot be achieved with usual chemical methods of degreasing. Furthermore, in hermetically closed muffles heightened pressure is created, increasing diffusion rate of C of remainders of adsorbing lubricant in depth of metal, and process of oxidation of surface proceeds less intensely. Intercrystal-

Card 2/3

SHESTAK, G.A., kand. tekhn. nauk

Recurrence of basic parameters of one-story industrial buildings
of the machinery industry. Prom. stroi. 37 no.6:48-50 Je '59.
(MIRA 12:8)

(Factories--Designs and plans)

KIKIN, A.I., prof.; BELENYA, Ye.I., prof.; STRELETSKIY, N.S., prof.,
doktor tekhn. nauk; LESSIG, Ye.N., dots.; BUKHAROV, K.K., dots.;
DUBINSKIY, G.S., dots.; SHESTAK, G.A., dots.; IGnat'YEVA, V.S.,
dots.; KOLBAKOV, V.M., dots.; GENIYEV, A.N., prof.; VEDENIKOV,
G.S., dots.; TUBIN, S.M., kand. tekhn. nauk, nauchnyy red.;
BEGAK, B.A., red. izd-va; OSENKO, L.M., tekhn. red.

[Metal construction; present state and outlook for future
development] Metallicheskie konstruksii; sostoianie i pre-
spektivy razvitiia. Pod obshchei red. N.S.Streletskogo. Mo-
skva, Gos. izd-vo lit-ry po stroit., arkhitekt. i stroit. materi-
alam, 1961. 333 p. (MIRA 15:4)

1. Moscow. Moskovskiy inzhenerno-stroitel'nyy institut.
2. Kafedra metallicheskih konstruksiy Moskovskogo inzhenerno-
stroitel'nogo instituta imeni V.V.Kuybysheva (for all except
Tubin, Begak, Osenko).
(Building, Iron and steel)
(Aluminum, Structural)

SHESTAK, Georgiy Andrianovich, kand. tekhn. nauk; GENIYEV, A.N.,
prof., retsenzent; ZELYATOROV, V.N., inzh., nauchn. rod.

[Designing steel structures for one-story industrial buildings]
Proektirovanie stal'nykh konstruksii odnoetazhnogo promysh-
lennogo zdaniya. Moskva, Stroiizdat, 1964. 169 p.
(MIRA 17:4)

1. Kafedra metallicheskih konstruksiy Leningradskogo inzhe-
nerno-stroitel'nogo instituta (for Geniyev).

SHESTAK, N.A.

Melting glass in furnaces with divided zones. Stak. i ker.
18 no.6:6-7 Je '61. (MIRA 14:7)
(Glass furnaces)

SHESTAK, N.A.; ROKHLIN, P.N.

Regenerative glass furnace with crosscurrent alignment of the flame.
Stek. i ker. 19 no.1:12-14 Ja '62. (MIRA 15:3)
(Glass furnaces)

SHESTAK, N.A.

Operation of glass furnaces on natural gas. Stek. 1 ker. 20
no.12:24-26 D '63. (MIRA 17:1)

SHESTAK, N.D., inzhener.

Apparatus for unloading loose materials from railroad platforms.
Avt.der.18 no.6:26 0 '55. (MLRA 9:2)
(Loading and unloading)

SHESTAK, N.D., inzhener.

Erecting the framework of concrete plants. Avt.dor. 19 no.9:11-12
S '56. (MLRA 9:11)

(Concrete plants)

SHESTAK, N. P.

S/081/62/000/006/099/117
B162/B101

AUTHORS: Dorogochinskiy, A. Z., Bashilov, A. A., Chertoryzhskiy, A. V.,
Arutyunova, O. L., Kreschetova, P. I., Shestak, N. P.

TITLE: The problem of the choice of solvent for polymerization of
ethylene into polyethylene at low pressure

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 6, 1962, 614, abstract
6P35 (Tr. Groznensk. neft. in-t, v. 3, sb. 25, 1961, 17-29)

TEXT: An investigation is made of the possibility of using extraction
benzine as a solvent for ethylene when polymerizing it into polyethylene
at low pressure. It is shown that the following are suitable: an extrac-
tion benzine fraction evaporating at 65-90°C with an aromatic hydrocarbon
content of 3.8% before de-aromatization and of 0.7% after de-aromatization,
or a fraction evaporating at 75-95°C in the case of which de-aromatization
is not needed (aromatic hydrocarbon concentration 0.7%). It is shown that
the presence of aromatic hydrocarbons has no effect on the polymerization
process, but impairs the regenerability of the solvent. [Abstracter's
note: Complete translation.]

Card 1/1

SHESTAK, N. P.; CHERTORIZHSKIY, A. V.; MIRSKIY, Ya. V.; MITROFANOV,
M. G.; DEMENKOV, I. A.

Adsorption properties of synthetic zeolites-molecular sieves
and their use in the advanced-stage dehydration of monomers.
Neftekhimia 2 no.4:512-518 J1-Ag '62.

(MIRA 15:10)

1. Groznenskiy nauchno-issledovatel'skiy neftyanoy institut i
Groznenskiy khimicheskiy zavod.

(Zeolites) (Monomers)

GARBER, K.S., dotsent; NIKITIN, A.I.; LYAUDIS, B.V.; MALINOVSKIY, B.N., kand. tekhn.nauk; BEL'SKIY, O.I.; VOLKOV, L.G.; KUZNETSOV, M.P.; KUTSENKO, A.D., SOROKIN, A.A.; STAKHURSKIY, A.D.; TRUBITSYN, L.M.; TRUSEYEV, A.I.; SHAFRAN, I.K., inzh.; SHESTAK, P.I.; UL'YANOV, D.P.

Automatic control of converter smelting by means of compu' rs.
Stal' 23 no. 7:608-610 J1 '63. (MIRA 16:9)

1. Dneprodzerzhinskiy metallurgicheskiy zavod-vtuz im. M.I. Arsenicheva (for Garger). 2. Institut kibernetiki AN UkrSSR (for Malinovskiy). 3. Zavod im. Dzerzhinskogo (for Shafran).

NOVAK, I.K.; YAMFT, G.Ya.; BOGOSLAVSKIY, Ye.A.; SHESTAK, P.I.;
GASCOIN, K.A.

Reconstruction of the 1,150 blooming mill drives at the
Dzerzhinskii Metallurgical Plant. Steel' 24 no.5:432-433
My '64. (MIRA 17:12)

1. Dneprovskiy metallurgicheskiy zavod im. Dzerzhinskogo.

SHESTAK, S., podpolkovnik yustitsii

Temporary center of legal information. Komm.Voornuzh.Sil 3
no.22:92 N '62. (MIRA 15:12)
(Military law—Study and teaching)

LUZANSKIAYA, Dora Isaakovna; SHPARLINSKIY, V.M., spets. red.;
AYNZAF, Yu.S., red.; SHESTAK, S.N., red.

[Inland-water fisheries of the U.S.S.R. (lakes, rivers,
and reservoirs); a guide] Rybokhoziaistvennoe ispol'zovanie
vnutrennikh vodoemov SSSR (ozera, reki i vodokhranilishcha);
spravochnik. Moskva, Pishchevaia promyshlennost', 1965.
597 p. (MIRA 18:7)

SHESTAK, S.S.

LAZAREVA, V.S., assist.; SHESTAK, S.S.

Determining the toxicology of grain and combined feeds. Veterinariia
34 no.10:70 0 '57. (MLRA 10:11)

1. Chkalovskiy gosmedinstitut (for Lazareva). 2. Zaveduyushchiy
khimiko-toksikologicheskim otdelom Chkalovskoy nauchno-issledovatel'-
skoy veterinarnoy stantsii (for Shestak)
(Feeding and feeding stuffs--Toxicology)

SHESTAK, S.S., nauchnyy sotrudnik; KORENEV, G.P.; KORENEVA, T.A.;
SAPOGOV, A.G., nauchnyy sotrudnik

Use of SZHK (pregnant mare's serum). Veterinariia 37 no.1:10-12
Ja '60. (MIRA 16:6)

1. Orenburgskaya nauchno-issledovatel'skaya veterinarnaya stantsiya
(for Shestak). 2. Direktor Simferopol'skoy mezhsovkhoznoy labora-
torii (for Korenev). 3. Simferopol'skaya mezhsovkhoznaya
laboratoriya (for Koreneva). 4. Turkmenskaya NIIZhV (for Sapogov).
(Serum therapy) (Veterinary medicine)

SHESTAKOV, A.

Reducing the cost of transportation. NTO 2 no.1:22-24
Ja '60. (MIRA 13:5)

1. Predsedatel' pravleniya Nauchno-tehnicheskogo obshchestva
Omskoy zheleznoy dorogi.
(Omsk--Railroad research)

SHESTAKOV, A., tekhnik-stroitel'; DIKIY, V.; TUMASYAN, I.; KLOKOV, N.,
inzhener-stroitel'; POPOV, F., inzh.

Readers' letters. Sel'. stroi. 15 no.4:27 Ap '61. (MIRA 14:6)

1. Sel'khozinspektsiya Orshanskogo rayona, Mariyskoy ASSR (for Shestakov). 2. Predsedatel' kolkhoza imeni Kirova Yegorlyksogo rayona, Rostovskoy oblasti (for Dikiy). 3. Sekretar' partiynoy organizatsii kolkhoza imeni Kirova Yegorlykskogo rayona, Rostovskoy oblasti (for Tumasyan). 4. Sel'khozinspektsiya Khorol'skogo rayona, Primorskogo kraya (for Klovov).
(Farm buildings)

TSURIKOV, V. (Bryansk); SHESTAKOV, A.

From the history of fire prevention. Pozh.delo 8 no.6:32
Je '62. (MIRA 15:6)
(Firemen)

SHESTAKOV, Anatoliy, inzh.

Tuning up and launching into operation of the Maritsa-Iztok
I. Thermoelectric Plant. Elektroenergiia 13 no.5/6:34-37
My-Je '62.

1. Gl. inzhener na grupata suvetski spetsiali pri Teploelektri-
cheskata tsentrala "Maritsa-Iztok I ."

25(1)

PHASE I BOOK EXPLOITATION

SOV/2330

Shestakov, Andrian Andrianovich

Machinist parovozdushnogo molota (Steam Hammer Operator) Moscow, Mashgiz, 1959.
118 p. Errata slip inserted. 8,000 copies printed.

Reviewer: P. G. Levandovskiy, Engineer; Eds.: B.N. Kazarinov, Engineer, and
S. G. Puchkov, Engineer; Tech. Ed.: N. A. Dugina; Executive

Ed.: A. V. Kaletina, Engineer (Ural-Siberian Division, Mashgiz).

PURPOSE: This book is intended as a manual for steam hammer operators and repairmen, and may also be used by forging machine workers.

COVERAGE: The book provides information on open and closed die forging processes, on forgeability of metals, and equipment for heating forging stock. This book is primarily concerned with the constructions and performance of steam forging hammers and hydraulic and crank presses. No personalities are mentioned. There are 10 references, all Soviet.

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SOV/2330

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AVAILABLE: Library of Congress (TS 225.947)	
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SHESTAKOV, A.; GOLOV, Yu.

From the history of fire departments. Pozh.delo 8 no.4:30
Ap '62. (MIRA 15:4)
(Fire departments)

SHESTAKOV, A. A., Cand. Physicomath Sci.

Dissertation: "Behavior of Integral Curves of a System of Differential Equations in the Vicinity of a Lingual Point of Higher Order." Sci Res Inst. of Mathematics, Moscow Order of Lenin State U imeni M. V. Lomonosov., 17 Dec 47.

SO: Vechernyaya Moskva, Dec 1947 (Project #17836)

SHESTAKOV, A. A.

Mbr., Sci. Res. Inst. Math., Moscow State Univ. -c1948-. Mbr., Geophysics Inst., Dept. Physico-Math. Sci., Acad. Sci., -c1949-. "Behavior of Integral Curves of the System of Ordinary Differential Equations in the Vicinity of a Singular Point," Dok. AN, 62, No. 2, 1948; "The Asymptotic Behavior of the Solutions of a Non-Linear System of Differential Equations," *ibid.*, 62, No. 5, 1948; "The Behavior of Integral Curves of a System of Differential Equations in the Neighborhood of a Singular Point of Higher Order," *ibid.*, 65, No. 2, 1949.

SESTAKOV, A. A.

Šestakov, A. A. On the behavior of the integral curves of a system of ordinary differential equations in the neighborhood of a singular point. Doklady Akad. Nauk SSSR 1948, 62: 171-174. (Russian)
The equations

$$(1) \quad \dot{x}_1 = \sum_{i=1}^m c_i x_i^i, \quad \dot{x}_i = \sum_{j=1}^n a_{ij} x_j + X_i(x_1, x_2, \dots, x_n), \quad i=2, \dots, n.$$

are considered; $O(x_1 = \dots = x_n = 0)$ being an isolated singular point and the X_i being power series beginning with terms of degree $m+1$ or higher. The characteristic roots λ_j of the matrix $\|a_{ij}\|$, $j=1, \dots, n$, are supposed to have non-zero real parts. Theorem 1. If $\operatorname{Re} \lambda_j > 0$, $j=1, \dots, k-1$, $\operatorname{Re} \lambda_k < 0$, $j=k, \dots, n$, and if $c_m > 0$, then given any system of k sufficiently small numbers $x_1^0, \dots, x_k^0 (x_i^0 > 0)$, there is one and only one system x_{k+1}^0, \dots, x_n^0 such that the solution passing through the point (x_1^0, \dots, x_n^0) tends to O as $t \rightarrow -\infty$.

The singular point is classified as a node, a generalized saddle of the 1st, 2d or 3d type or a saddle-node, according to the signs of c_m and of the $\operatorname{Re}(\lambda_j)$ and whether m is even or odd. Theorem 2. If the λ_j are real and negative, $m \geq 2$, the solutions tending to O are tangent at the origin to the curve defined by equating to zero the second members of the last $n-1$ equations (1).
J. L. Massera.

Source: Mathematical Reviews.

Vol 10 No. 4

SHESTAKOV, A. A.

498

Shestakov, A. A., and Palvin, A. U. On the asymptotic behavior of solutions of nonlinear systems of differential equations. Doklady Akad. Nauk SSSR (N.S.) 62, 493-498 (1948). (Russian)

The asymptotic behavior as $t \rightarrow \infty$ of the stable solutions of the system

$$dx_i/dt = \sum_{k=1}^n a_{ik}x_k + \varphi_i(x_1, x_2, \dots, x_n, t), \quad i=1, 2, \dots, n$$

(a_{ik} constant, $\varphi_i(0, 0, \dots, 0, t) = 0$), has been studied by O. Perron [Math. Z. 29, 129-160 (1928)] and by I. G. Petrovsky [Rec. Math. [Mat. Sbornik] (1) 41, 107-155 (1934)]. In the present note some of those results are stated under weaker hypotheses. Not all of the proofs are given. W. Wasow (Swarthmore, Pa.).

Source: Mathematical Reviews,

Vol 10 No. 8

Sm *h*

SHESTAKOV, A.A.

Shestakov, A. A. The behavior of the integral curves of a system of the form

$$\frac{dx_1}{dt} = X_1(x_1), \quad \frac{dx_i}{dt} = \varphi_i(x_1, x_i) + X_i(x_1, x_i, \dots, x_n)$$

in the neighborhood of a singular point. Doklady Akad. Nauk SSSR (N.S.) 62, 591-594 (1948). (Russian)

Previous results of the author [see the preceding review] are generalized to the present systems. He assumes that $O: x_1 = \dots = x_n = 0$ is an isolated singular point, that $x_1 = 0$ is an isolated root of X_1 , that $J = \int_0^1 X_1^{-1} dx_1$ diverges, that $0 < m < |[\varphi_i(x_1, x_i) - \varphi_i(x_1, x_i)]/(x_i - x_i)| < M$ if $x_i \neq x_i$ ($i = 2, \dots, n$) and that the X_i have continuous first partial derivatives vanishing at the origin. Theorem 2 of the previous paper is generalized as follows. In order that the integral curves which tend to O enter the origin along one and only one direction, the assumption $dX_1/dx_1 \rightarrow 0$ as $x_1 \rightarrow 0$ is sufficient.

J. L. Massera (Montevideo).

Source: Mathematical Reviews.

Vol 10 No. 4

(mu)

SMESTAKOV, A. A.

41982. SMESTAKOV, A. A. PAYVIN, A. U.-- Ob asimptoticheskom povedenii resheniy nelineynoy sistemy differentsial'nykh uravneniy. Doklady akad. Nauk SSSR, Novaya seriya, T. LXIII. No 5, 1948. S. 495-98

SO: Letopis' Zhurnal'nykh Statey, Vol. 47, 1948

OTRSPL, NO. 45

Shestakov, A.A. (F.E. Dzerzhinski Moscow Electromechanical Institute of Engineers of Railroad Transportation), Some theorems on instability in the sense of Lyapunov, 25-8

Akademiya Nauk, S.S.S.R., Doklady, vol. 79, No. 1 1951

SHESTAKOV, A A.

275

Shestakov, A. A. On the behavior of the integral curves of a system of n differential equations ($n \geq 3$) near to a singular point of higher order. Doklady Akad. Nauk SSSR (N.S.) 79, 205-208 (1951). (Russian)

Let $\bar{z}_t = X_t(x_1, \dots, x_n)$, where the X_t vanish at the origin and are holomorphic in its neighborhood, the developments may begin with terms of degree higher than one. The author proves the existence of families of integral curves given by equations $x_i = (z_i + z_{i-1})t^{p_i}$ where the p_i are integers, a_i constants and $z_i \rightarrow 0$ as $t \rightarrow 0$; the precise statement is too lengthy to be formulated here. There are several printing errors.

J. L. Masera (Montevideo)

SMW

Moscow-Electromechanical Acad. RR Transport Engineers.

Prof. F. E. Dolanovskiy

Source: Mathematical Reviews,

Vol 13 No. 5

С. Е. ЛАНКОВ А. А.

1000

Šestakov, A. A. Some theorems on stability in Lyapunov's sense. Doklady Akad. Nauk SSSR (N.S.) 79, 25-28 (1951). (Russian)

Let $\dot{z}_n = X_n^{(m)}(x_1, \dots, x_n) + L_n(x_1, \dots, x_n)$, where the $X_n^{(m)}$ are relatively prime homogeneous polynomials of degree m and $L_n = O(r^{m+1})$, $r^2 = x_1^2 + \dots + x_n^2$. Any solution (a_1, \dots, a_n) of the system $x_1/X_1^{(m)} = \dots = x_n/X_n^{(m)}$ is a "critical direction" and, if m is odd, it is called "positive" whenever the ratio $x_1/X_1^{(m)}$ is positive. The following results are proved: (1) If a critical direction exists (m even) or if a positive critical direction exists (m odd), the origin is unstable; (2) if n is odd, there is always a critical direction; (3) as a corollary, the case n odd, m even, is always unstable. Another criterion of instability is derived for the case $m=1$ when several characteristic exponents vanish. J. L. Massera.

Smul

Source: Mathematical Reviews,

Vol 13 No5

SHESTAKOV, A. A.

USSR/Mathematics - Nonlinear Mechanics 1 Jul 51
Stability, Servo

"Certain Theorems Concerning Stability in Liapounoff's Sense," A. A. Shestakov, Moscow Electromech Inst of Engineers of Railroad Transport imeni F. E. Dzerzhinskiy

"Dok Ak Nauk SSSR" Vol LXXIX, No 1, pp 25-28

Considers the system of differential eqs of disturbed motion: $\dot{x}_s = F_s(x_1, \dots, x_n)$, where $F_s(0, \dots, 0) = 0$ ($s = 1, \dots, n$). Derives some new criteria governing the stability or instability (e.g., nature of the roots of the characteristic eq), in the form of 4 theorems. Presented by Acad I. G. Petrovskiy 28 Apr 51. 210T51

SHESTAKOV, A. A.

"Distribution of Singular Points of a System of n Differential Equations", Tr. Kazansk. Aviats. Inst., Vol 27, 1953, pp 41-50.

The author presents a development of Poincare's investigations of the distribution of singular points of a system of n differential equations inside an $(n - 1)$ dimensional manifold, where n is greater than or equal to 3. The system discussed is the following:

$$\frac{dx_s}{dt} = X_s(x_1, \dots, x_n), \quad s = 1, 2, \dots, n,$$

where X_s and the partial derivative of X_s with respect to x_j are continuous and bounded in a bounded region $F(x_1, \dots, x_n) \subset \mathbb{R}^n$ of n -dimensional space. (RZhMat, No 1, 1955).

SO: Sum. No. 443, 5 Apr. 55

FUKS, Boris Abramovich, prof.; BAKHSHIYAN, F.A., prof.; ANDRIYEVSKIY, F.P., dotsent; MIROSHKOV, R.K., dotsent; NAGAYEVA, V.M., dotsent; SOBOLEV, H.A., dotsent; SOKOLOV, A.M., dotsent; SHAPIRO, Z.Ya., dotsent; SHUSHARA, G.N., dotsent; KAPLAN, I.B., starshiy pre-podavatel'; POLOZKOV, A.P., starshiy prepodavatel'; POLOZKOV, D.P., starshiy prepodavatel'; TOPAZOV, N.G., starshiy prepodavatel'; SHCHERBAKOV, S.S., starshiy prepodavatel'; Primalni uchastiye: GOL'DENVEYZER, A.L., prof.; BARANENKOV, G.S., dotsent; BERMAN, Ya.R., dotsent; LUNTS, G.L., dotsent; SHESTAKOV, A.A., dotsent; GMURMAN, V.Ye., starshiy prepodavatel'; Rozental', M.I., assistant; SOKOLOVA, L.A., assistant. ROZANOVA, G.K., red.izd-va; KUZ'MINA, N.S., tekhn.red. (Continued on next card)

FUKS, Boris Abramovich--(continued) Card 2.

[Higher mathematics; methodological instructions and control assignments for the students of correspondence technical schools of university level] Vysshiaia matematika; metodicheskie ukazaniia i kontrol'nye zadaniia dlia studentov zaочnykh vysshikh tekhnicheskikh uchebnykh zavedenii. Izd.9. Pod red. B.A.Fuksa. Moskva, Gos.izd-vo "Sovetskaiia nauka," 1958. 179 p.

(MIRA 12:9)

1. Russia (1923- U.S.S.R.) Ministerstvo vysshego obrazovaniia. Metodicheskoye upravleniie.

(Mathematics--Study and teaching)

ZAPOROZHETS, G.I.; SHESTAKOV, A.A., red.; MEDVEDEVA, M.A., tekhn.red.

[Methodological handbook for solving problems on mathematical analysis] Metodicheskoe rukovodstvo k resheniiu zadach po matematicheskomu analizu. Moskva, Vses.soochnyi in-t inzhenerov zhel-dor.transports. Pt.1. 1959. 202 p. (MIRA 13:5)
(Mathematical analysis)

16(1)

AUTHOR: Shestakov, A.A.

SOV/42-14-1-23/27

TITLE: Theorems on the Existence of Integral and Critical Straight Lines of a Homogeneous System of n Differential Equations ($n \geq 3$)
(Teoremy o sushchestvovanii integral'nykh i kriticheskikh pryamykh odnorodnoy sistemy n differentsial'nykh uravneniy ($n \geq 3$))

PERIODICAL: Uspekhi matematicheskikh nauk, 1959, Vol 14, Nr 1, pp 245-248 (USSR)

ABSTRACT: The author considers the system

$$(1) \quad \frac{dx_s}{dt} = X_s^{(m)}(x_1, \dots, x_n), \quad m \geq 2, \quad n \geq 3,$$

where the $X_s^{(m)}$ are forms of m -th degree. The real solutions $g = (g_1, g_2, \dots, g_n)$ of the algebraic equations $x_1 : X_1^{(m)} = x_2 : X_2^{(m)} = \dots = x_n : X_n^{(m)}$ define the straight lines $x_p : x_n = g_p : g_n$; these are integral curves of (1). Theorem 1 is already announced in [Ref 1].

Theorem 2: If m is odd, then (1) has at least one integral straight line. Definition: If a solution runs at infinity in

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Theorems on the Existence of Integral and
Critical Straight Lines of a Homogeneous
System of n Differential Equations ($n \geq 3$)

SOV/42-14-1-23/27

the direction $g = (g_1, \dots, g_n)$, then this straight line is called
critical.

Theorem: The critical straight lines are integral straight lines.
There are 2 references, 1 of which is Soviet, and 1 German.

SUBMITTED: November 4, 1957

Card 2/2

16(1)
 AUTHORS: P'khakadze, A.V., and Shestakov, A.A. SOV/39-49-1-1/5
 (Moscow)
 TITLE: On the Classification of Singular Points of a First Order
 Differential Equation Where the Derivative is Not Given Explicitly
 PERIODICAL: Matematicheskii sbornik, 1959, Vol 49, Nr 1, pp 3-12 (USSR)
 ABSTRACT: Given the Differential equation
 (1) $F(x, y, y') = 0$.
 To the solutions $y = f(x)$ there correspond those curves of the
 surface
 (S) $F(x, y, p) = 0$
 for which
 (2) $-p dx + dy = 0$.
 The equations of these curves are
 (3) $\frac{dx}{dt} = -F_p, \quad \frac{dy}{dt} = -p F_p, \quad \frac{dp}{dt} = F_x + p F_p$.
 The singular points (x_0, y_0, p_0) of (3) are defined by $F = 0$,
 $F_p = 0, F_x + p F_p = 0$. Definition: If $(x_0, y_0, p_0) \in S$ is a singular
 point of (3), then (x_0, y_0) is called a singular point of (1).

Card 1/2

On the Classification of Singular Points of a
First Order Differential Equation Where the
Derivative is Not Given Explicitly

SOV/39-49-1-1/5

This definition deviates from the definition of J.G.Petrovskiy
[Ref 1] and gives the possibility of a classification of the
singular points of (1). With the aid of the Taylor development
of F the authors obtain the "differential equation of the first
approximation":

$$(7) \quad \frac{1}{2} (F_{pp})p^2 + (F_{xp})xp + \frac{1}{2} (F_{xx})x^2 + F_y y = 0,$$

where $O(x^3 + p^3)$ is neglected since these terms have no influence
on the behavior of the integral curves in the neighborhood of the
singular point. Differentiating (7) with respect to x and
considering p as a function of x, then there follows

$$(13) \quad \frac{dx}{dp} = \frac{2\beta x + (\alpha + \gamma)p}{-\gamma x - 2p},$$

where α, β, γ are certain constants. Now the classification of the
singular points is transferred from (13) to (7) and further to (1),
where three principal types are distinguished: elliptic, hyperbolic,
and parabolic singular points. There are 5 figures, and 2 references,
1 of which is Soviet, and 1 French.

SUBMITTED: November 18, 1957

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69986

S/020/60/131/05/14/069

16.3400

AUTHOR: Shestakov, A.A.

TITLE: Asymptotic Behavior of Solutions to Multidimensional Systems of Ordinary Differential Equations Having a Singular Point of Higher Order

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol 131, No. 5, pp. 1038-1041

TEXT: In the present paper the author continues his earlier investigations (Ref.1,2). He considers the system

$$(1) \quad \frac{dx}{dt} = X(x), \quad x = (x_1, \dots, x_n), \quad n \geq 3,$$

where the components of the vector $X(x)$ are power series of the coordinates of the point x containing no free terms and no terms of first order. Beside of (1) the author considers a certain "shortened" system

$$(4) \quad \frac{dx}{dt} = \varphi_s(x_1, \dots, x_n),$$

which has two parabolic solutions which tend to zero for $t \rightarrow \pm \infty$. Then the

X

Card 1/2

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S/199/61/002/005/004/006
B112/B138

/6.3400

AUTHOR: Shestakov, A. A.

TITLE: Asymptotic behavior of the solutions of a multidimensional system of differential equations having a singular point of higher order

PERIODICAL: Sibirskiy matematicheskiy zhurnal, v. 2, no. 5, 1961, 767 - 788

TEXT: The author considers systems of the form $dx/dt = X(x)$, $X(0) = 0$, where X is an n -dimensional homogeneous function of x of the degree $m \geq 2$.

The solutions are represented in the form $x = e_0 \omega \text{mod}(c_0 + t)^r$. e_0 is a root of the equation $e_0^{2m-2} = 1$ ($e_0^{m-1} = +1$ for $c_0 \geq 0$, $e_0^{m-1} = -1$ for $c_0 < 0$). X

In order to study the asymptotic behavior of the solutions, the author replaces the system $dx/dt = X(x)$ by two systems $\tau dy/d\tau = Ly$ and

$\tau dy/d\tau = My$ of the Poincaré-Lyapunov type, where $L = (1 - m)X(\omega) - E$ and $M = (m - 1)X(\omega) - E$. The corresponding transformations are $\tau = (c_0 - t)^r$,

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Asymptotic behavior of the...

$x = (\omega + y)\tau$ and $\bar{\tau} = (c_0 - t)^{\tau}$, $x = (\bar{\omega} + \bar{y})\bar{\tau}$. The eigenvalues of L and M are characteristic of the asymptotic behavior of the solutions. Several theorems concerning this behavior are derived. There are 10 Soviet references.

SUBMITTED: August 13, 1960

Card 2/2

SHESTAKOV, A.I., red.; IVANUSHKO, N.D., red.; SVESHNIKOV, A.A.,
tekh. red.

[Programmed teaching and cybernetic teaching machines; collection of scientific and technical articles] Programmirovannoe obuchenie i kiberneticheskie obuchaiushchie mashiny; nauchno-tekhnicheskii sbornik statei. Moskva, "Sovetskoe radio," 1963. 247 p. (MIRA 17:3)

18.7200

82292
S/135/60/000/007/010/014
A006/A002

AUTHORS: Gritsenko, A.F., and Shestakov, A.I., Engineers

TITLE: Pressure-Butt Welding of Aluminum-Magnesium Alloy Parts of up to 10,000 mm² Cross Section

PERIODICAL: Svarochnoye proizvodstvo, 1960, No. 7, pp. 30-33

TEXT: The Laboratory of Electrothermics of the Institut elektrotekhniki AN USSR (Institute of Electric Engineering AS UkrSSR) and a machinebuilding plant developed a technology of pressure-butt welding of aluminum-magnesium alloy blanks (AMr-5BM(AMg5VM) and AMr3 (AMg3)) of up to 10,000 mm² cross section. The experimental investigation was carried out on a special installation designed by P.A. Pleskanovskiy (Figure 1). The ring-shaped blanks to be welded were decreased and heated up to 450°C. To carry out additional heating of high-strength alloys the installation was equipped with an induction heater. Welding was performed at a specific reduction pressure of 120 kg/mm² (the reduction rate was 0.5 m/min, the magnitude of reduction was 140 mm). One half of the specimens cut out from the weld joints were annealed at 280°C, and were then subjected to tension and bending tests. During tension the specimens broke down in the base metal. The weld joints had a high ductility. Macro- and micro-investigations showed the absence of inter-

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A006/A002

Pressure-Butt Welding of Aluminum-Magnesium Alloy Parts of up to 10,000 mm² Cross Section

face boundaries, pores and cracks. Due to the presence of vanadium in the AMg5VM alloy, relatively short heating and low temperatures, the tendency to grain growth under pressure welding conditions did not considerably affect the mechanical properties of weld joints. The structure of AMg3⁶ alloy joints was slightly coarser grained than that in the initial alloy. A slight increase in hardness was observed in the transition areas of the base metal to the butt. X-ray examination of AMg5VM specimens of 4,500-6,000 mm² cross section did not reveal any defects. The tests proved that the strength of weld joints produced by the described technology was equal to that of the base metal, with satisfactory bending angle values. Annealing to 280°C did not have any essential effect on the mechanical properties of the joints. The method is simple and economical. There are 5 photographs and 1 table. X

Card 2/2

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S/135/63/000/001/003/016
A006/A101

AUTHORS: Khrenov, K. K., Academician of AN UkrSSR, Shestakov, A. I.,
Engineer

TITLE: On plastic deformation in pressure butt welding

PERIODICAL: Svarochnoye proizvodstvo, no. 1, 1963, 11 - 12

TEXT: It is proposed to determine plastic deformation in cold and pressure butt-welding from the volume of the extruded metal (burr). The metal cut-off during welding is weighed and the value obtained is divided by the specific metal weight. The proposed method is illustrated by examples which show that the notion of the "deformation degree" should be replaced by the term "deformation value", which can be experimentally determined. Butt welding should be performed with optimum deformation value. It is the decisive factor of the process: lower deformation reduces the strength and ductility of the weld and increased deformation raises the metal consumption. There are 4 figures.

ASSOCIATION: Institut elektrotekhniki AN UkrSSR (Institute of Electric Engineering, AS UkrSSR)

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D040/D113

Pressure welding of rolled....

upsetting is doubled. The metal is heated to plastic state, clamped in special holding clamps, and upset in several reprisals. The clamps have a large gripping surface, hold the metal by friction, and thus do not deform the surfaces. Metal with surface defects and oxide films is squeezed out into the burr. Metallographic investigation of samples taken at different stages of the process reveals diffusion, fine metal structure, and absence of an overheated zone. The structure in the butt joint zone consists mainly of a solid solution of Mg in Al, and a very small β -phase. In tests, the bend angle of metal specimens from the joint is lower than in the base metal, and the impact strength 50% lower, simply because of the anisotropy of Al-Mg alloys. Conclusions: (1) Al-Mg alloy elements can be pressure butt-welded; (2) the quality of welded joints is high; (3) the techniques introduced at some heavy-machinery plants and developed for pressure butt welding elements with a cross section area of up to 10,000 mm² are recommended for extensive application. There are 3 figures and 2 tables.

ASSOCIATION: Institut elektrotekhniki AN USSR (Electrical Engineering Institute, AS UkrSSR)

SUBMITTED: February 10, 1962

Card 2/2